

WORKING PAPER

# **Assessing the Political Impacts of a Conditional Cash Transfer: Evidence from a Randomized Policy Experiment**

**Julia E. Tobias**

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# ABSTRACT

## **Assessing the Political Impacts of a Conditional Cash Transfer: Evidence from a Randomized Policy Experiment**

Julia E. Tobias (*Global Innovation Fund, London, U.K.*),  
Sudarno Sumarto (*The SMERU Research Institute, Jakarta, Indonesia*), and  
Habib Moody (*The Urban Institute, Washington D.C., USA*)

Several developing nations, including Indonesia, have experimented with conditional cash transfers (CCTs) to poor households during recent years. Since 2007, Indonesia has been carrying out a randomized CCT pilot program (PNPM Generasi) in 1,625 villages where funds are disbursed to communities rather than households, and local councils allocate the funds to public projects following community input. In this paper, we explore political outcomes associated with the program, including electoral rewards for incumbents, and political participation. By comparing regions receiving the program with a control group, we estimate the CCT's effects on political behavior in the 2009 elections for president and the national legislative assembly, and we also explore its effects on local politics. We find that the CCT program increases vote shares for legislative candidates from the incumbent president's party, improves households' satisfaction with *kabupaten*-level government administrative services, and decreases competition among presidential candidates as measured by the Herfindahl-Hirschman Index (HHI). We do not find conclusive evidence to support the hypothesis that the program increases votes for the incumbent president, and we find no evidence that the program significantly increases voter turnout or affects village-level politics.

Keywords: conditional cash transfer, political behavior, Indonesia

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## LIST OF ABBREVIATIONS

BLT	: Bantuan Langsung Tunai	Unconditional Cash Transfer
BPD	: Badan Perwakilan Desa	Village Representative Councils
BPS	: Badan Pusat Statistik	Statistics Indonesia
CCT	:	conditional cash transfer
DPR	: Dewan Perwakilan Rakyat	House of Representatives
DPRD	: Dewan Perwakilan Rakyat Daerah	Regional House of Representatives
HHI	:	Herfindahl-Hirschman Index
KDP	: Program Pengembangan Kecamatan	Kecamatan Development Program
PD	: Partai Demokrat	Democratic Party
PDI-P	: Partai Demokrasi Indonesia Perjuangan	Indonesian Democratic Party of Struggle
PKH	: Program Keluarga Harapan	Hopeful Family Program
PNPM	: Program Nasional Pemberdayaan Masyarakat	National Program for Community Empowerment
PNPM Generasi	: Program Nasional Pemberdayaan Masyarakat Generasi Sehat dan Cerdas	National Program for Community Empowerment for a Healthy and Smart Generation
PNPM-Mandiri	: Program Nasional Pemberdayaan Masyarakat-Mandiri	National Community Empowerment Program-Mandiri
PNPM-Rural	: Program Nasional Pemberdayaan Masyarakat-Perdesaan	National Community Empowerment Program for Rural Areas
PNPM-Urban	: Program Nasional Pemberdayaan Masyarakat-Perkotaan	National Community Empowerment Program for Urban Areas
RT	: <i>rukun tetangga</i>	unit of local administration
RW	: <i>rukun warga</i>	unit of local administration consisting of several RT
UPP	: Program Kemiskinan Perkotaan	Urban Poverty Project



# I. INTRODUCTION

## 1.1 Overview

In recent years, conditional cash transfers (CCTs) have become one of the dominant strategies of governments in developing countries to deliver social safety nets for the poor. These programs, which now exist in over thirty countries, generally aim to alleviate poverty both in the short- and the long-term, the former through cash transfers and the latter through increasing investments in human capital (Fiszbein et al., 2009). The basic model for CCTs comes from Mexico's Progresa program, which provides grants to households conditional on meeting certain health and education requirements. Several countries in Latin America and elsewhere have recently been developing their own variants of such programs. From 2007 to 2009, the Government of Indonesia launched a pilot conditional cash transfer sub-program of the National Program for Community Empowerment (PNPM) called PNPM Generasi, which is now being scaled up nationally.

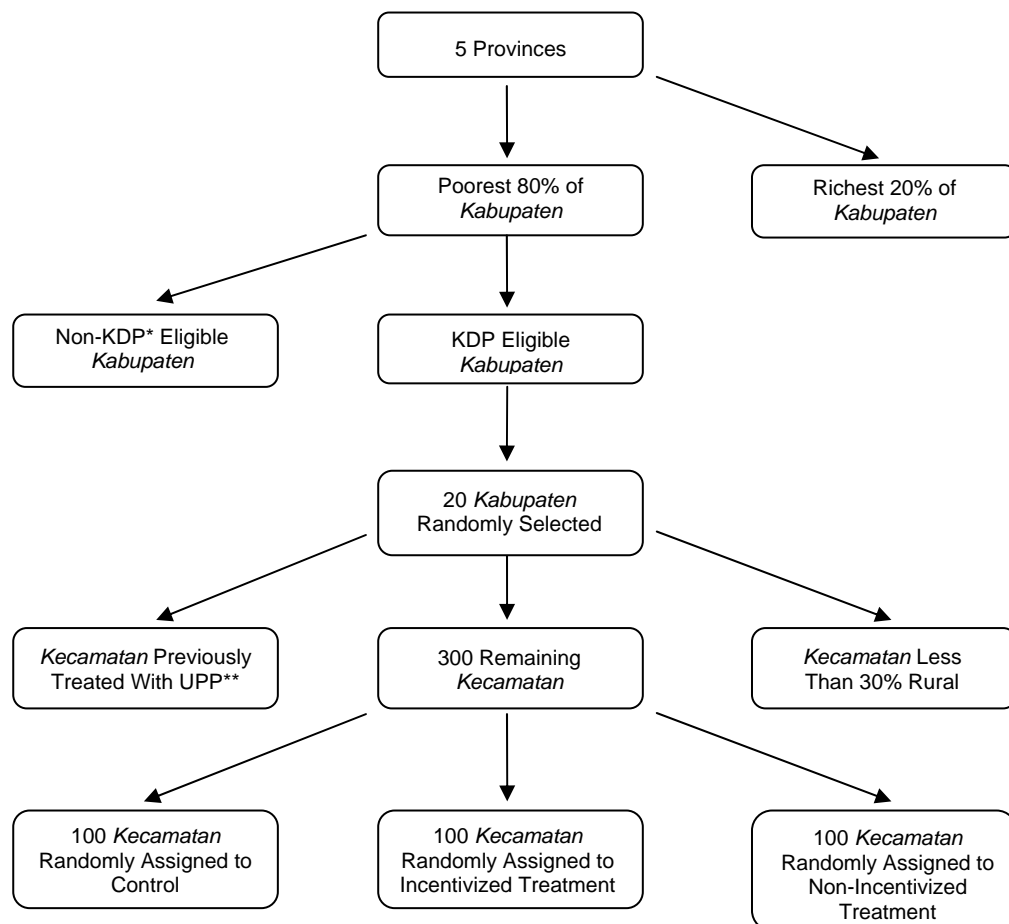
PNPM Generasi provides block grants, equivalent to roughly US\$10,000, to *kecamatan* (sub-districts) to be spent on health and education projects. The World Bank assisted the government in randomly assigning 300 *kecamatan* to control and treatment groups in order to facilitate an extensive impact evaluation of the pilot. The evaluation, currently in progress, measures primarily PNPM Generasi's achievement of its main goals: improving health and education outcomes (Jonishi, Olken, and Wong, 2010). In this paper, we test the hypothesis that the program may have also affected several political outcomes, including electoral support for incumbents and political participation.

PNPM Generasi builds upon other CCT models by adding an innovative feature of targeting funds to communities rather than to individual households. Indonesia is the first country to test this type of innovation, which combines the traditional CCT model with a community-driven development approach, where community forums are involved in allocating funds to village-level development priorities. This participatory approach recognizes that CCTs to households are not effective in areas where supply-side constraints hinder the provision of health and education services. For example, requirements that children must be enrolled in school or that pregnant women must visit health professionals for pre-natal care in order to receive the cash transfer cannot be enforced where there are insufficient school or hospital facilities. In such settings, block grants that allow communities to decide how to use the funds in the best way may be more effective than channeling funds directly to households (World Bank, 2008). In addition to the potential social and economic benefits of this approach, we hypothesize that block grants may also have the attractive features of being politically desirable and capable of generating rewards for incumbents, while also building up political participation by encouraging community empowerment.

Existing research on the effectiveness of both community-driven development programs and CCT programs generally tends to focus on human development outcomes, with little attention given to the potential political effects of such programs. While several evaluations suggest that such community-driven development programs are beneficial to their recipients, as measured by key social and economic indicators (for example, Björkman and Svensson, 2007; Fearon, Humphreys, and Weinstein, 2009; Stiglitz, 2002), their consequences for democratic behavior, such as participation in national elections are not yet well understood. Similarly, despite a growing number of studies on the economic impact of household CCTs (Handa and Davis, 2006; Skoufias and Parker, 2001), we are aware of only a few recent studies on their political

effects, with the evidence being largely limited to the Latin American cases of Mexico and Brazil (De La O, 2013; Diaz-Cayeros, Estévez, and Magaloni, 2012; Zucco, 2010). From a policy perspective, the political impacts of these programs are particularly important given the potential implications for their long-term sustainability.

Three hundred *kecamatan* in five provinces were randomly assigned either to an untreated control group or to a group receiving the PNPM Generasi program that begun in June 2007. Over the next two years, treated *kecamatan* received annual grants of roughly US\$10,000 to be allocated by local councils to health- and education-related projects, with the assistance of trained facilitators.<sup>1</sup> The overall treatment group included two randomized variants of the program (see Figure 1): 1) half of the treated *kecamatan* were assigned to an “incentivized” version of the treatment, where in addition to receiving a fixed amount of funds, villages were eligible to receive an additional 20% in bonus funds during the second year of PNPM Generasi, contingent upon first-year performance against a set of health and education benchmarks; 2) the other half of the treated *kecamatan* received a “non-incentivized” version, where funds in the second year did not depend on first-year performance.



**Figure 1. Assignment Procedure**

Source: Olken, Onishi, and Wong, 2008: 11.

<sup>1</sup>The precise size of the block grant that *kecamatan* were eligible to receive was pre-determined based on the population and the poverty level of the *kecamatan*.

Our research tests the main hypothesis that the CCT program has positive effects on incumbent re-election and on political participation. We explore these outcomes using new locally disaggregated data on Indonesia's April 2009 election for the House of Representatives (DPR) and the July 2009 presidential election, and unique detailed data on political behavior at the village-level and *kabupaten*-level. We supplement our key outcome measures—incumbent vote shares and voter participation—with several additional measures that aim to capture potential effects of the CCT on local government capacity, political activeness, and the entry of women, minorities, and younger candidates into village-level political offices. We expect the CCT to impact the national-level elections (presidential and general elections), since the CCT is a central government initiative, but we also explore the possibility that beneficiaries may credit the lower levels of government for the benefits associated with the program, or that the CCT may affect participation in local politics.

We expect these outcomes for several reasons. The first rationale is aligned with the more traditional household conditional cash transfer approach of Mexico, Brazil, and several other nations: social transfers promise better lives for the poor, and thus a healthier relationship with government. If voting serves as a lever to punish or reward incumbents, then winning the lottery in a randomized policy experiment that provides program benefits should cause voters to turn out in support of their current government (Hastings et al., 2007). The second rationale relates to the unique community-driven approach of the CCT, which engages communities in discussion forums and voting on project proposals to determine the allocation of funds. Olken (2010) finds that direct participation in the decision-making process of a community development program in Indonesia significantly increases perceived legitimacy and satisfaction with this program. We take this logic a step further and expect that communities' experience with democratic decision-making processes at the local level in a context specific to the program may translate into greater participation in politics in general.

We do not have a strong prior hypothesis on whether to expect any difference between the incentivized versus non-incentivized treatments, but since this additional layer of randomization was built into the program design, we take advantage of the opportunity to explore the arising differences in political outcomes across these groups. We expect that the incentivized treatment may have stronger effects on voter participation and support for the incumbent, since this program variant is more effective in engaging community members and achieving program outcomes. The reverse scenario is also possible, however; since the incentivized program shifts the locus of control over program outcomes toward the community, it may shift credit for the program away from political leaders.

To preview our results, we find that the CCT program increases vote shares for legislative candidates from the incumbent president's party, improves the households' assessments of *kabupaten*-level government administrative services, and decreases the competition among presidential candidates, as measured by the Herfindahl-Hirschman Index (HHI). We find no conclusive evidence that the program significantly increases votes for the incumbent president, increases voter turnout, or affects village-level politics.

It is important to note that we regard the examined political outcomes as potential side effects of the PNPM Generasi program, since these outcomes were never explicitly articulated as program goals; the focus of the program was mainly on improving health and education development outcomes. Our findings are thus not intended to be interpreted as evidence of the success or failure of the program. Instead, we explore the political effects of CCTs with a view that, whether intentional or not, these effects may potentially have strong relevance to the future sustainability of such programs in the context of democratic developing countries.

Finally, it should be noted that the government also piloted a different CCT program during the same time period, known as *Program Keluarga Harapan* (PKH), the Hopeful Family Program, with funds targeted directly to households rather than communities. We will not analyze this program at this point, however, due to data constraints and because PKH was subject to some non-random selection. Additionally, a direct comparison of the effects of PNPM Generasi's community CCT approach and PKH's household CCT approach is difficult due to different initial sampling procedures of both programs. We plan to analyze the PKH program separately in the future, subject to data availability. For now, we note that there is no overlap between the treatment and control groups assigned to PKH and PNPM Generasi, so potential spillover effects between areas receiving the different programs should not be a concern.

## 1.2 Review of Literature

A large body of existing research provides evidence that in developing countries, social programs are often governed by traditional-style clientelistic politics, where politicians target private benefits toward certain individuals in exchange for votes and the benefits may be withdrawn if voters do not fulfill their commitments.<sup>2</sup> The recent types of CCTs differ from such clientelistic programs, however, in that funds are allocated according to rules-based formulas that minimize the discretion over the process. Generally, the selection of regions for CCT programs is based on geographic targeting procedures that favor poorer regions, and the disbursement of funds to households or communities within selected regions is conditional on the achievement of the program's health and education requirements rather than on the interest of politicians. While the design of CCT programs and their levels of independence from politics may vary across countries, CCTs generally tend to be much harder for politicians to manipulate than traditional transfer programs, and the benefits cannot be easily targeted toward or withdrawn from particular households or communities. Understanding the extent to which CCT programs are associated with electoral rewards or other political effects can give an insight into the long-term political will of a government to implement CCTs as alternatives to traditional social transfers.

Research on the political effects of CCTs has emerged only recently, and most of the existing empirical work is limited to non-randomized analyses that focus exclusively on Latin American countries. Diaz-Cayeros, Estévez, and Magaloni (2012) use matching techniques to calculate electoral returns of Mexico's Progresa, for example, and find the program generates electoral gains for the incumbent party and its candidates, although these gains are not as great as those induced through previous clientelistic vote-buying strategies and discretionary transfers. Similarly, Zucco (2010) provides evidence, using observational data, that Brazil's CCT program, Bolsa Família, provided electoral returns to the incumbent president Lula da Silva in the 2006 election. These authors' methods assume that participation in the program can be considered as an exogenous variable due to the inclusion of covariates, which, however, is a strong and potentially questionable assumption. In another recent study, Manacorda, Miguel, and Vigorito (2010) examine Uruguay's CCT using a regression discontinuity approach, and provide evidence that Uruguay's PANES program increased the support for the current government relative to the previous administration by 11–14 percentage points. However, the regression discontinuity method they use faces the potential

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<sup>2</sup>For example, Stokes (2005) provides evidence of the politics of patronage in Argentina's Trabajar public employment scheme; Diaz-Cayeros, Estévez, and Magaloni (2012) provide evidence of clientelistic politics in Mexico's PRONASOL program, the predecessor to Progresa.

problem that the sample of data clustered around the discontinuity threshold may be limited, while the expanded interval around the threshold carries the risk of making the estimates biased. Further, similar to the approach of Diaz-Cayeros, Estévez, and Magaloni (2012) and due to the unavailability of official electoral data, Manacorda, Miguel, and Vigorito (2010) infer voting behavior from exit poll data, though such data may be inaccurate.

The only randomized evaluation of the political effects of a CCT program of which we are aware is De La O (2010), which finds that the Progresa randomized conditional cash transfer program boosted the turnout in Mexico's 2000 elections by 7% and increased the incumbent's vote share by 16%. Our study builds upon these findings by testing the hypothesis that CCTs may provide electoral advantages to incumbents and increase political participation in the context of Indonesia, a developing country outside Latin America. We also examine the political outcomes of CCTs at two levels: the national one and the local one. This is in contrast to all of the studies described above, which focused exclusively on the central level. We are able to analyze a detailed set of political measures, going beyond incumbent vote shares and voter participation, as our data contains official electoral results and household survey responses.

Our hypothesis is consistent with theories of retrospective voting, where politicians are rewarded for providing desirable goods or services to their constituents (Key, 1961), and politicians' past performance is viewed as a predictor of future performance (Fiorina, 1981). Even if politicians cannot directly punish CCT beneficiaries who do not vote for them, it may be rational for CCT beneficiaries to vote for incumbents as a response to receiving the program. For example, in an environment where voters lack perfect information on the incumbent's performance and the quality of their economic policy, receipt of the conditional cash transfer can plausibly be interpreted as evidence of a political commitment to continuing such programs or to catering to the poor in general. The logic of our hypothesis fits with the finding of Ansolabehere, Rodden, and Snyder (2006) that economic issues are central to voters in comparison with moral or ideological concerns. Reciprocity may also play a role in helping to explain why CCT recipients might be likely to vote for a government that has initiated such a program (Cox et al., 2007; Gneezy and List, 2006; Regan, 1971), regardless of whether future benefits are contingent upon supporting the political incumbents. This type of behavior differs from vote-buying or clientelism (Stokes, 2005) in that it does not necessarily pose a threat to democracy; in fact, a certain level of electoral responsiveness to conditional cash transfers may be necessary to sustain the political will for such programs.

Indonesia is an excellent setting to test our hypotheses, as no other nation has introduced participatory development programs on such a large scale. The introduction of a randomized CCT facilitates our empirical analysis and allows us to measure the causal effects of the program while alleviating potential concerns about the endogeneity bias. Much of the existing research that attempts to infer how social transfer programs affect voting behavior by comparing recipients' voting patterns with those of non-recipients' faces the challenge that funds are often targeted based on socioeconomic criteria, which tend to predict political behavior, or are targeted based on political characteristics. For example, if politicians tend to direct transfers toward their core supporters, any relationship detected between receipt of the transfer and higher support for incumbents may be spurious. The randomization of the PNPM Generasi program provides a source of exogenous variation that allows us to compute unbiased estimates of changes in voting behavior that can be attributed to receiving the program, rather than to pre-existing differences between recipients and non-recipients.

Additionally, the community-based development model embedded in the PNPM Generasi program, where funds are distributed to communities at the *kecamatan* level rather than to

individual households, implies that the CCT might enhance political participation. Greater local participation in decision-making through the program might increase voter turnout through empowering poor citizens; engagement with one's community in problem-solving and decision-making may reinforce the trust, commitment, and group identity of stakeholders, feeding political energies that find later expression in voting (Ostrom, 1998). Recent findings lend support to the significance of personal contact and social pressure in shaping political behavior. For example, in get-out-the-vote field experiments, doorstep canvassing is more effective than direct mail and scripted telephone appeals by several percentage points (Gerber and Green, 2000). Our paper is not able to distinguish between different potential causal mechanisms that may be responsible for the political effects we observe, but we hope that this discussion of plausible causal mechanisms suggests useful avenues for future research.

## II. ORIGINS OF PNPM GENERASI: INDONESIAN SOCIAL PROTECTION SINCE 1998

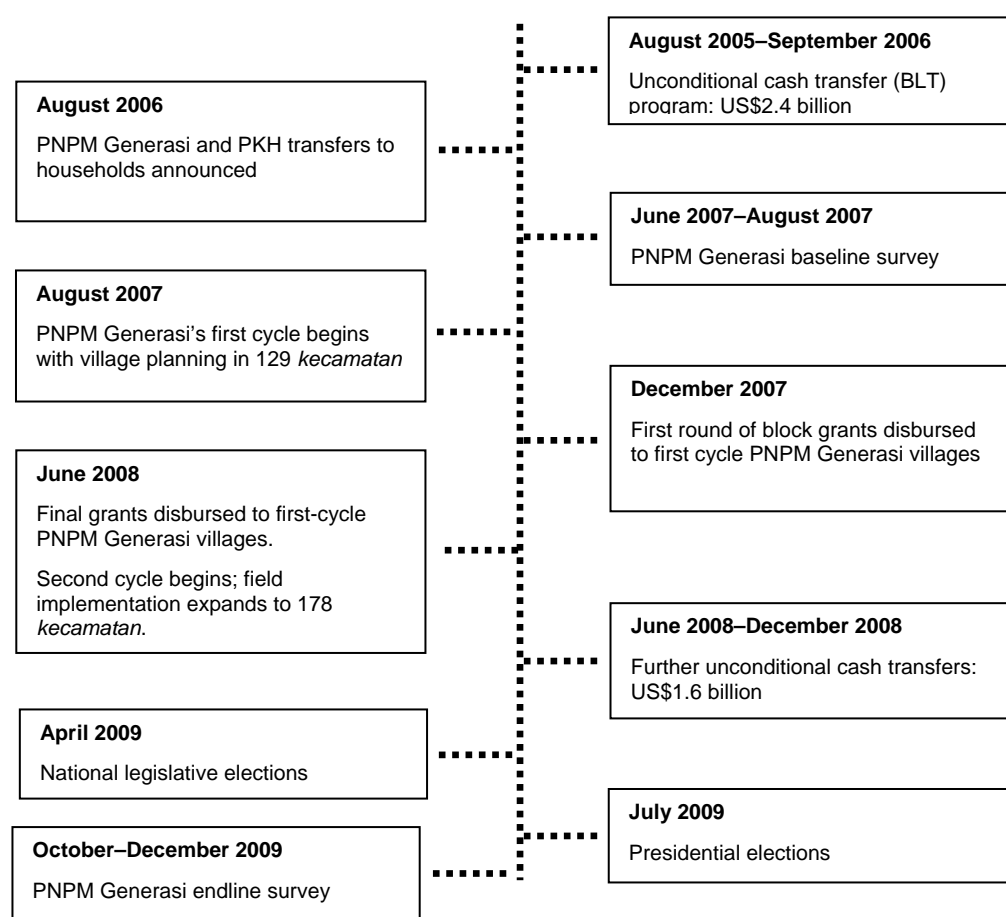
The development of a modern system of social protection in Indonesia began in response to the Asian economic crisis of 1997. As panicked investors withdrew funds from overheated markets, the value of the Indonesian rupiah declined by 85% and the poverty rate increased from 15% to 33% in one year. Mass deprivation provoked rioting in major cities, leading to the downfall, in May 1998, of the 33-year Suharto dictatorship. With support from several international donors, including the World Bank, the new government immediately introduced a social safety net (JPS) to mitigate the effects of the crisis on Indonesia's poorest citizens. These programs included the Special Market Program (OPK)—a rice and basic commodity subsidy program, 'labor intensive' employment creation programs, health sector programs, and a scholarship program.

The government also moved swiftly to reduce regressive but politically entrenched fuel subsidies, a holdover from the Suharto era, and redirected the savings toward more equitable social protection initiatives. The subsidies were first slashed by 12% in October 2000, and further reduced, following rising government spending on fuel, as crude oil prices surged in 2005 and 2008. Both the 2005 and 2008 reductions were accompanied by an Unconditional Cash Transfer (BLT) program (introduced in 2005 in Indonesia for the first time), which delivered unconditional quarterly tranches of cash to cushion the adverse effects of price shocks on the poor. The initiative reached 19 million statistically identified poor households and lasted between October 2005 to October 2006 and June 2008 to December 2008. Recent evidence suggests that the program brought some substantial welfare gains to the households reached, although both the targeting and coverage of BLT were flawed (World Bank, 2006).

At the same time, after years of Suharto's authoritarianism and a legacy of endemic corruption, Indonesian officials also sought to use community-driven development to decentralize the provision of public goods. In 1998, the government began issuing pilot grants to rural *kecamatan* to spend on infrastructure projects, most commonly roads, under the auspices of a new national program, the Kecamatan Development Program (KDP). Under the program, grants of roughly US\$8,000 were disbursed to villages within *kecamatan* via an inter-village forum. The process was competitive: proposals were ranked in a voting process, and once a proposal was chosen, an implementation team was elected. Urban communities were eligible to participate in a similar program, the Urban Poverty Project (UPP), where grants of up to US\$50,000 funded training, community organizations, infrastructure development and microcredit. Over several phases in the early 2000s, these initiatives grew to comprise the

largest participatory development program in the world, expanding from a handful of sites to over half of Indonesia's villages by 2007.

Starting in 2006, Indonesia revamped its schemes of transfers to households and communities (for a full timeline, see Figure 2). President Susilo Bambang Yudhoyono has declared the country's unconditional cash transfer program a success, but stated that further transfers would be restructured to more effectively promote development objectives. To replace the BLT, the central government, with the World Bank's assistance, announced the PKH, wherein payments to households would be disbursed conditional on achieving a series of health- and education-related benchmarks. Cash transfers to communities were restructured under the new umbrella of the PNPM, which now administers three initiatives; the KDP and UPP programs have been enhanced and renamed as PNPM-Urban and PNPM-Rural (which support PNPM-Mandiri<sup>3</sup>), while the third initiative, PNPM Generasi, provides block grants to communities for health and education projects rather than infrastructure, conditional on commitments to improve the same set of health and education outcomes as in PKH. This paper focuses on PNPM Generasi.



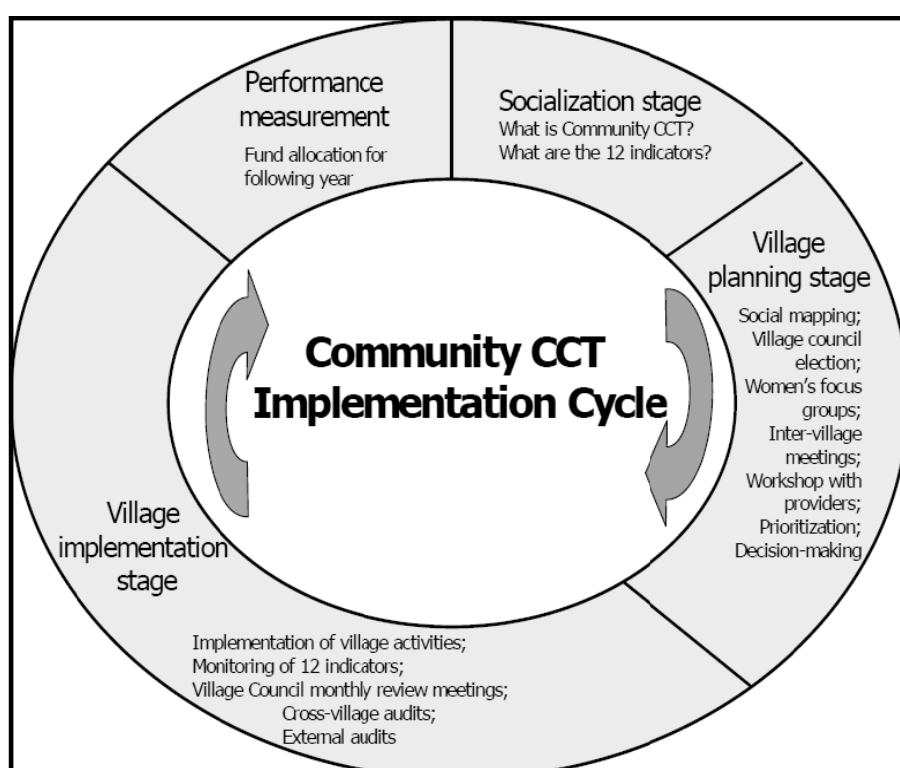
**Figure 2. Timeline of Events**

Source: Olken, Onishi, and Wong, 2011.

Figure 3 summarizes graphically the four stages of a PNPM Generasi treatment cycle, which lasts twelve to fourteen months. First, in the “socialization” stage, government-trained facilitators introduce the program and its goals to the *kecamatan*'s villages. Villagers are told

<sup>3</sup>PNPM-Mandiri is a poverty reduction program launched by the Government of Indonesia in 2007.

that funds may only be spent on projects that work toward twelve conditionalities (see Box 1), including universal enrollment for school-aged children and attendance rates above 85% in elementary and high school, regular pre-natal and post-natal care visits for pregnant mothers, and complete childhood immunizations. Second, in the *planning* stage, villagers elect a council, participate in focus groups, and make decisions about community priorities; a community might choose, for instance, to divide its funds for textbooks, a community health center, and water purification technology. The *implementation* stage is the longest, at about nine months. Here, villagers execute the projects they have selected, with technical assistance from the facilitators. The treasury issues payments in three tranches, with the precise amount of the grant dependent upon the number of beneficiaries and the total funds available for the cycle. Finally, in the *assessment* stage, communities evaluate their progress with respect to the key indicators. Under the incentivized treatment, this evaluation determines the magnitude of the grant for the following cycle, while in the non-incentivized treatment, funding in the second year does not depend on previous performance.



**Figure 3. Project Life Cycle of PNPM Generasi**

Source: Olken, Onishi, and Wong, 2008: 11.

Several anecdotal reports before the 2009 legislative and presidential elections in the Indonesian media noted that the PNPM program was expected to bring electoral benefits to the president and his Democratic Party (PD). On one hand, the president had explicitly urged the public to understand that the PNPM program was not connected with politics and mentioned that he expected the program would continue even in the event of a leadership change; indeed, at least one of the opposition candidates, Jusuf Kalla, pledged to continue funding such programs if he were elected (The Jakarta Post, 2009b). At the same time, however, the public in some cases may have perceived social safety net programs including PNPM as programs of the president and his party rather than as programs of the state. *The Jakarta Post* noted during the campaign, for example: “Even though the party denied the programs were designed specifically to lure voters toward their campaign, the programs have



generated significant positive hype during the reign of the SBY [Susilo Bambang Yudhoyono] government” (The Jakarta Post, 2009a). In some cases, the president made widely publicized visits during his campaign tours to hand over funds from the central government to local governments. During the distribution of PNPM funds in the Lampung Province, for example, *The Jakarta Post* quoted one villager as saying, “I hope that [Susilo Bambang Yudhoyono] will be elected again to president. Villagers here admire him so much because he has helped them [through the aid schemes]” (The Jakarta Post, 2009a). When public opinion polls showed spikes in approval ratings for the president and his party in October and November 2008, the rise in popularity was widely attributed in the press to a recent advertising campaign promoting and raising public awareness about these programs. The advertisements, which were funded by the state as program-related expenses, were criticized as being essentially political advertisements (The Jakarta Post, 2008). This paper is the first to empirically test these types of anecdotal speculations about a possible link between the PNPM program and political outcomes.

**Box 1.**  
**List of CCT Program Conditional Benchmarks**

**For pregnant mothers**

1. Four pre-natal care visits
2. Receipt of iron supplement tablets during pregnancy
3. Delivery assisted by a midwife or doctor
4. Two post-natal care visits

**For children under five**

1. Complete childhood immunizations
2. Ensuring monthly weight increases for infants
3. Monthly weighing of children under three and bi-annually of children under five
4. Vitamin A supplement tablets twice a year for under-fives

**For school-aged children**

1. Elementary school enrollment of all children aged between seven and 12 years old
2. Minimum attendance rate of 85% for all elementary school-aged children
3. Junior high school enrollment of all 13 to 15 year-old children

### III. EXPERIMENTAL DESIGN

Five Indonesian provinces were initially selected to receive PNPM Generasi: East Java, West Java, Gorontalo, North Sulawesi, and East Nusa Tenggara. In Indonesia, a province comprises many *kabupaten* (districts), a *kabupaten* comprises many *kecamatan*, a *kecamatan* comprises many villages (*desa/kecamatan*<sup>4</sup>), and a village comprises many sub-villages (*RT*<sup>5</sup>/*RW*<sup>6</sup>/*dusun*<sup>7</sup>). Within selected provinces, treatments were assigned according to the

<sup>4</sup>A *kelurahan* is a village level administrative area located in an urban center.

<sup>5</sup>An RT, or a neighborhood unit, is the smallest unit of local administration consisting of a number of households.

<sup>6</sup>An RW is a unit of local administration consisting of several RT (neighborhood units) within a *kelurahan*.

<sup>7</sup>A *dusun* is an administrative area within a village, consisting of a number of RT.

following process. First, *kabupaten* were ranked according to their wealth on the basis of poverty, school transition, and malnourishment rates, and the richest 20% of *kabupaten* were excluded.<sup>8</sup> Then, among *kabupaten* already receiving KDP grants<sup>9</sup>, twenty *kabupaten* were randomly selected for PNPM Generasi and stratified by province. In Gorontalo and North Sulawesi, the set of *kabupaten* was small enough that every eligible *kabupaten* was selected. Within the selected *kabupaten*, all *kecamatan* previously treated with the UPP or where less than 30% of the villages and urban precincts are classified as rural by Statistics Indonesia (BPS) were eliminated.

A control group and two treatment groups were randomly drawn from the remaining set of 300 *kecamatan*, stratified by *kabupaten*. Both treatments were identical, except that in the “incentivized” treatment, villages were eligible to receive bonus funds of up to 20% of a village’s fixed baseline allotment during the second year of PNPM Generasi, contingent upon first year performance; in the “non-incentivized treatment,” second-year funding did not depend on first-year performance. Groups were evenly split ( $n = 100$ ). Overall program compliance rates were high: only 22 of the 200 *kecamatan* that were supposed to receive either variant of the program did not receive the program at all between 2007 and 2009. Delays to the program start-up date did occur in some cases, however, as can be expected with development programs in the field: 129 of the *kecamatan* assigned to treatment were treated in the first cycle, beginning in 2007, while 49 were treated in the second cycle, starting in 2008.<sup>10</sup> Figure 1 displays, by province, the assignment of *kecamatan* to experimental groups.

## IV. BACKGROUND ON ELECTORAL POLITICS IN INDONESIA

This section provides background information on Indonesian politics, useful for understanding the political outcomes analyzed in this paper. The goal is to provide a quick snapshot of Indonesia’s political landscape, with emphasis on electoral politics at the national and sub-national levels. We focus on the 2009 elections which are analyzed in this paper.

Elections for seats in the DPR are held every five years, before the presidential elections, and party support garnered in the legislative elections determines which parties can field candidates in the presidential election. Indonesia’s April 2009 DPR elections had over 30 parties fielding candidates. The most votes were won by PD (20.85%), the Golkar Party (14.45%), and the Indonesian Democratic Party of Struggle (PDI-P) (14.03%).

The president serves a five-year term with a two-term maximum. The July 2009 presidential election was contested by three candidates:

- (i) Susilo Bambang Yudhoyono (commonly referred to by his initials, SBY), the incumbent president, who previously served as a high-ranking military commander and then as minister of mining and energy before helping to establish the PD;

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<sup>8</sup>Data on *kabupaten*-level socioeconomic variables came from Indonesia’s National Socioeconomic Survey (Susenas).

<sup>9</sup>The purpose of this requirement was to ensure some prior experience with local infrastructure programs.

<sup>10</sup>Reasons for the program delays were typically related to funding issues at the central government level.

- (ii) Megawati Sukarnoputri, a former president (2001–2004) and leader of the PDI-P who had been an opposition candidate in the 2004 presidential elections. She is also the daughter of Indonesia’s first president, Sukarno, who presided over Indonesia’s transition to independence from Dutch colonial rule in 1945; and
- (iii) Jusuf Kalla, a former businessman and then incumbent chairman of the Golkar Party, who served as President Yudhoyono’s vice president during his first term in office (2004–2009).

President Yudhoyono won a landslide victory in the election, capturing 60.8% of the vote in the election, exceeding the minimum constitutional threshold required to be declared the winner without the necessity of a run-off between the top two candidates, as had been required between President Yudhoyono and Megawati in the 2004 elections. Megawati and Kalla won 26.8% and 12.4% of votes, respectively. President Yudhoyono is the first president to be elected directly in Indonesia since democracy was introduced in 1998 after the fall of Suharto, whose authoritarian rule over the country lasted for over three decades (1967–1998).

Regarding local politics, Indonesia has begun decentralizing its democracy over the past decade. Gubernatorial and *kabupaten/kota* (district/city) head elections, positions which were appointed during the Suharto era, were phased in, starting in 2005, with staggered timing across the country. Gubernatorial and *kabupaten* head elections are scheduled to occur every five years. Below the *kabupaten* level, *kecamatan* heads are appointed, and village/*kelurahan* heads are elected according to staggered schedules every five to eight years, *kelurahan* heads are appointed by *kabupaten*-level officials. *Kabupaten* heads usually have political party affiliations, while village heads are banned from joining political parties. Villages are also required by law to form elected legislative bodies, Village Representative Councils (BPD), which serve the functions of assisting with the village governance and checking the power of the village head, though so far the implementation of this law has been somewhat uneven across regions.

## V. DATA

### 5.1 Description of Data

Our primary source of data is the World Bank Indonesia’s Health and Education Services Survey, a longitudinal panel study that includes a baseline survey conducted from June to August 2007 before the start of PNPM Generasi, and an endline survey conducted from October to December 2009 on the full set of randomized treatment and control *kecamatan*. The survey data include in-person survey interviews with household respondents and village leaders.<sup>11</sup> Eight villages were randomly selected from each *kecamatan* and one sub-village was randomly chosen from each village. From each sub-village, five household respondents were selected, stratified to include higher representation of the program target groups (for example, households with women of child-bearing age or school-aged children).<sup>12 13</sup> Additionally, one respondent per

<sup>11</sup>The World Bank CCT Baseline Survey Report (2007) provides more details on the survey sampling procedure.

<sup>12</sup>Specifically, households in each *kecamatan* were categorized into three groups: i) households with pregnant or breastfeeding mothers or married women pregnant during the last two years; ii) households with children aged between six and 15 years of age; iii) other households. The five respondents per *kecamatan* were then chosen as follows: two from group i, two from group ii, and one from group iii (CCT Baseline Survey Report, 11).

<sup>13</sup>In later drafts of this paper, we plan to use sample weights equal to the inverse of a respondent’s sampling

village (the village head if available, or otherwise an alternate village leader such as the village secretary) completed the village leader survey and provided data on official voting records. In total, there were over 10,000 household survey respondents and roughly 2,000 village leader respondents in 20 *kabupaten* (300 *kecamatan*). We aggregate all of the data to the *kecamatan* level (the unit of randomization). Each *kecamatan* is coded by its assigned treatment status and its actual treatment status, including the year of PNPM Generasi's introduction and whether the *kecamatan* received the incentivized or non-incentivized treatment.

Since Indonesian electoral data disaggregated below the *kabupaten* level are generally not publicly available, this survey's data provide a unique insight into several political variables of interest to this research. The survey includes several questions on political outcomes, which we roughly divide into the following five categories: (i) support for incumbents and political competition; (ii) voter participation; (iii) political access and local government capacity; (iv) satisfaction with public services; and (v) political entry into the office of village head. Wherever possible, we explore the potential political impacts of PNPM Generasi at multiple tiers of government, including the central, *kabupaten*-level, and village-level politics. We are grateful to the World Bank for the opportunity to assist in developing these sections of the survey.

### 5.1.1 Support for Incumbents and Political Competition

The first section on support for incumbents and political competition explores data collected from village leaders' official records on votes for each candidate in the April 2009 legislative election and July 2009 presidential election, disaggregated to the village level, and in the most recent village head election.<sup>14</sup> We construct several indicators using these data, including the share of votes for the incumbent president, the share of votes for legislative candidates from the president's PD, and the incumbent village head's vote share. The data on legislative candidates includes the vote share percentages only for the top three candidates from each village; we use these data to create two variables: the combined vote share of all PD candidates (out of the total votes recorded), and a dummy variable for whether the first-place candidate is from the PD ("PD\_WINNER"). We also construct two standard indicators to measure overall levels of competition in the presidential election and the village head elections: (i) the HHI, equal to the sum of squared vote shares of all candidates, where 0=perfect competition and 1=no competition; and (ii) the winning margin of victory, equal to the difference in vote shares between the top two candidates, where closer differences imply stronger competition. We are unable to analyze voting in *kabupaten* head elections, since only few *kabupaten* in the sample had elections scheduled during the 2007–2009 time period of the CCT pilot. The survey also includes information on the total number of political parties that visited the villages in the past year. We assume that such visits, which coincided with the campaign period for the legislative and presidential elections, were usually instances where party members gave speeches or held political rallies for the campaign. We regard this as a proxy for the level of political attention given to the villages by national political parties, or essentially, the political importance of villages, as perceived by higher-level politicians.<sup>15</sup> Note that at each level of politics, we explore the extent to which the CCT brings electoral rewards to incumbents as well as its effects on political competition within the system as a whole.<sup>16</sup>

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probability (borrowed from forthcoming World Bank computations) so that our results are more representative of the general population.

<sup>14</sup>Note that we have verified in a small sample of villages that the election data provided by village heads is identical or nearly identical to the official records held at the local general elections commission (KPU) office.

<sup>15</sup>Note that village heads are prohibited from having political party affiliations.

<sup>16</sup>Also, note that since Indonesian law requires village heads to be democratically elected only in villages

### 5.1.2 Voter Participation

Second, we explore voter participation outcomes using data from both the village leaders and household surveys to test whether PNPM Generasi affects political participation. As noted earlier, the village survey provides information on total votes cast in the presidential, legislative, and most recent village head elections, which can be used to infer voter participation at the village level. Because data on the total number of registered or eligible voters is not available, we use the village adult population (from the village head survey) in the denominator of these participation measures, following the approach of De La O (2010). As an additional measure to cross-check the data reported by village leaders, the household survey asks respondents whether they participated in the most recent: (i) presidential election; (ii) legislative election; and (iii) village head election (in areas where a village head election occurred during the past two years). It was considered to be too sensitive to ask households to report which candidate they voted for in these elections so the latter type of household-level data only measures turnout rather than vote shares. For all voter participation data, we report the overall participation rates as well as participation rates disaggregated by gender.

### 5.1.3 Political Access/Activity and Local Government Capacity

The third section examines several variables that are proxies of local government capacity, political access, and levels of political activity. We expect that PNPM Generasi may strengthen local government institutions and give communities a stronger political voice through community meetings, discussions, leadership selection procedures, budget planning, voting and consensus-building on project decisions. From the village leader survey, we use information on the total number of protests to the *kabupaten* government during the past year as measure of political activeness. We also investigate the number of times that village officials invited or visited higher-level government offices for meetings (and vice versa), as a measure of the village's access to higher-level government resources. Specifically, we focus on meetings with the members of the DPR, provincial and *kabupaten*-level Houses of Representatives (DPRD), and *kabupaten* heads. As a proxy for local government capacity, we analyze data on BPD, which are not yet functional everywhere, although their existence is mandated by law. The data include whether or not the BPD exists and the total number of the board meetings held during the past three months. As a final measure of local government activity at the village level, we ask the respondents to report whether they currently participate in any village-level government institutions or groups.

### 5.1.4 Satisfaction with Public Services

To measure the changes in satisfaction with government services, we use several questions asked in the household survey. The first question asks households to evaluate any change in the quality of administrative services provided by the *kabupaten* government during the past two years using a three-point scale (1=worsened; 2=same; 3=improved), while the second asks households to report their level of satisfaction with *kabupaten* government services provided in the same time period on a four-point scale. The same questions are also asked about village-level government services. Examples of common services typically provided at these levels of government include the issuance of various permits, licenses, and resident identity cards. The PNPM program did not specifically intend to improve these types of services, so we are cautious in interpreting these indicators, but we expect that they may

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(*kelurahan* heads are appointed by heads of *kabupaten/kota*), *kelurahan* are dropped from the sample for the questions relevant to village head elections. For this subset of questions, we also examine only villages with elections occurring between the start of the PNPM program and the endline survey collection.

reflect the general levels of satisfaction with village-level and *kabupaten*-level government performance that PNPM might affect.

### **5.1.5 Political Entry into the Office of Village Head**

We also explore the extent to which PNPM Generasi may empower certain groups to be more politically active, given that the program involves community members in numerous participatory decision-making processes and might foster conditions for new leadership to emerge. Using data on demographic characteristics of village heads elected after the start of the program, we focus on the entry of groups who have not traditionally held positions of power in village politics, including women (who represent less than 7% of village heads in the baseline survey). Several components of PNPM Generasi specifically target women due to their important role in helping to achieve the program's education and maternal and child health goals; the program also required the formation of women's groups, which were to submit project proposals to reflect the concerns of women in the communities. Additionally, we look at whether the program leads to the election of better-educated village leaders, using a seven-point categorical scale that records the highest level of educational attainment (1=no schooling or incomplete elementary schooling; 7=post-graduate degree). We also look at whether PNPM Generasi encourages the election of younger candidates as village heads, which might suggest a move away from traditional leadership by village elders. Finally, we examine whether the program empowers candidates from poorer or smaller sub-villages, which might indicate a shift to a more inclusive democracy. The logic here is that wealthier candidates and those from larger sub-villages tend to be at an advantage where the elections are determined through vote-buying or voting is based solely on shared sub-village identity. Since only very limited socioeconomic data are available at the sub-village level, we create an approximation of sub-village socioeconomic status by asking village heads to rank each of the sub-villages from richest to poorest, and we standardize these rankings on a scale from 0-1. We create a proxy for the size of the sub-village using a dummy variable (0=largest sub-village; 1=other sub-village).

## **5.2 Test of Balance across Treatment and Control Groups**

In addition to the five categories of dependent variables discussed above, we include a standard set of control variables in all of our regression equations that were specified in advance of the analysis. The variables, which come from the baseline survey, are as follows: the percentage of the population that is Muslim, the percentage of agricultural households, average distance (in kilometers) to the *kabupaten* capital, urban or rural status, log of monthly per capita consumption expenditures (in thousands of rupiah), and the average education level of the household head. Since there is little existing literature on the determinants of political outcomes in Indonesia, we select these variables based on controls commonly used to predict voters' behavior in other countries, and we make adjustments to the Indonesian context based on available data. Several of these controls, including the log of per capita consumption, the percentage of agricultural households and the household head's education level, are proxies for socioeconomic status, which are likely to be correlated with voting behavior. The distance to the *kabupaten* capital and urban or rural status variables control for geographic factors, which also are likely to be correlated with voting. Finally, the variable on the percentage of the population that is Muslim may be relevant, since several of the major political parties in Indonesia have Islamic affiliations.

We add additional controls in a few of the regression specifications as follows. Where President Yudhoyono's 2009 vote share is the dependent variable, we control for his 2004 vote share, and likewise, where voter participation in the 2009 presidential election is the dependent variable, we control for 2004 voter participation. Data on votes cast in the 2004 official presidential election are borrowed from Hyde (2010); to estimate voter turnout, we combine these data with village adult population data from the most proximate (2005) BPS Village Potential Survey (Podes) poverty census as a proxy for the number of eligible voters. In the analyses of political participation, political activeness and the local government capacity, we include, as additional control variables, two indicators of general levels of community participation from the baseline household survey: the average number of community groups to which households belong and the average total number of times households have participated in community group meetings during the last three months.

**Table 1. Test of Balance across Randomized Treatment Groups**

Control Variables	Means			Differences – No Fixed Effects			Differences – Fixed Effects		
	Control	Incentives	No Incentives	Incentives – Control	No Incentives – Control	Incentives – No Incentives	Incentives – Control	No Incentives – Control	Incentives – No Incentives
Percentage_Muslim	78.329	76.634	77.466	-1.6949	-0.8634	0.8315	-1.7748	-0.3964	1.3784
	-39.18	-41.18	-40.06	-6.09	-6.09	-6.05	-1.61	-1.48	-1.4
Percentage_Agricultural	79.134	74.065	78.75	-5.0696*	-0.3841	4.6855*	-4.6109	-0.49	4.121
	-20.01	-19.43	-18.08	-3	-2.94	-2.79	-2.96	-2.99	-2.55
Distance_To_Kabupaten	33.065	35.481	38.379	2.416	5.3141	2.8981	1.4713	3.8981	2.4268
	-26	-25.33	-31.92	-3.9	-4.46	-4.31	-3.38	-3.54	-3.32
Urban	0.037	0.032	0.011	-0.0043	-0.0252	-0.0209	-0.0031	-0.0235	-0.0204
	-0.19	-0.18	-0.11	-0.03	-0.02	-0.02	-0.02	-0.02	-0.02
Log_Consumption	12.373	12.358	12.437	-0.0148	0.0638	0.0786	-0.03	0.0697	0.0996
	-0.54	-0.6	-0.55	-0.09	-0.08	-0.09	-0.08	-0.08	-0.08
Education_Household_Head	2.159	2.452	2.33	0.2931	0.171	-0.1221	0.2474	0.1601	-0.0873
	-1.39	-1.07	-0.94	-0.19	-0.18	-0.15	-0.19	-0.18	-0.14
Sby_Voteshare_2004	0.483	0.484	0.483	0.0013	-0.0001	-0.0014	0.0057	-0.0012	-0.0069
	-0.13	-0.14	-0.15	-0.02	-0.02	-0.02	-0.01	-0.01	-0.01
Voter_Participation_2004	0.533	0.532	0.549	-0.0011	0.0167	0.0178	-0.0025	0.0184*	0.0210**
	-0.07	-0.07	-0.09	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Community_Groups	2.085	2.108	1.909	0.0222	-0.1763	-0.1984	0.0733	-0.1697	-0.243
	-2.13	-1.8	-1.54	-0.3	-0.29	-0.25	-0.26	-0.26	-0.24
Community_Meetings	11.829	10.054	9.614	-1.7755	-2.2156	-0.4401	-1.8701	-2.4225	-0.5524
	-20.29	-11.75	-14.55	-2.55	-2.73	-1.98	-2.49	-2.68	-1.98
Joint test				0.7741	0.716	0.5109	0.6568	0.6691	0.28

*Note:* Each observation is a *kecamatan*. The second row for each variable shows standard deviations for the first three columns and robust standard errors for subsequent columns. "DISTANCE\_TO\_KABUPATEN" is the distance to the *kabupaten* capital in kilometers. "URBAN" is a dummy variable (0=rural; 1=urban) corresponding to a classification system of the BPS. "LOG\_CONSUMPTION" is the log of monthly per capita household consumption expenditures in thousands of rupiah. Household head education levels ("EDUCATION\_HOUSEHOLD\_HEAD") are coded on a seven-point scale. "COMMUNITY\_GROUPS" is the number of groups to which all household members belong, and "COMMUNITY MEETINGS" is the total number of meetings attended by these groups over the past three months.

Table 1 shows that the control variables are well-balanced across the treatment and control groups, as we would expect given the randomization process. The first column lists the mean and standard deviation of each variable, while the second and third columns show the results of OLS regressions of the incentivized treatment and non-incentivized treatment variables respectively on each of the control variables. The data are aggregated to the *kecamatan* level and results are shown with and without the stratum-level fixed effects. For example, the vote share for President Yudhoyono is 48.3% in the control group, 48.4% in the incentivized treatment group, and 48.3% in the non-incentivized group, but the differences are not statistically significant. In total, of the 60 differences presented, one is significant at the .05 level and three are significant at the .10 level, which is no more than would be expected due to pure chance. Note also that the  $p$ -value of the joint test of significance for all of the control variables is not significant in any of the models (with or without fixed effects).

### 5.3 Summary Statistics across Treatment and Control Groups

Table 2 presents the baseline summary statistics on the treatment and control groups for the main dependent variables. The data shown is from the endline survey and variables relevant to elections at the levels of presidential, legislative, *kabupaten* head, and village head offices are displayed. Each observation represents one of the *kecamatan* in the experiment. On average, across the treatment and control *kecamatan*, President Yudhoyono won 53.4% of the vote share with a victory margin of 17%, while his party won 28.3% of legislative votes. Incumbent village heads captured 50.9% of the vote on average, with mean margins of victory of 7.2%. The HHI competition measure is close to 50% in both presidential and village head elections. Voter participation rates are similar across all elections, around 65%, except for village head elections, which have lower participation (54.4%).



**Table 2. Summary Statistics of Main Dependent Variables**

	obs	mean	std	min	max
<u>Presidential Elections</u>					
SBY_VOTESHARE	263	0.534	0.10	0.22	0.80
SBY_MARGIN	263	0.170	0.20	-0.52	0.66
HHI	263	0.491	0.06	0.36	0.69
WINNER_MARGIN	263	0.311	0.12	0.04	0.66
NUMBER_OF_CANDIDATES	262	2.848	0.82	1.12	5.10
LOG_PARTY_VISITS	236	0.910	0.56	0.00	2.94
PARTICIPATION	264	0.643	0.08	0.46	0.82
<u>Legislative Elections</u>					
PD_VOTESHARE	264	0.283	0.16	0.00	0.70
PARTICIPATION	264	0.646	0.07	0.45	0.82
<u>Kabupaten Head Elections</u>					
PARTICIPATION	263	0.646	0.08	0.41	0.83
<u>Village Head Elections</u>					
INCUMBENT_VOTESHARE	238	0.509	0.19	0.06	1.00
INCUMBENT_MARGIN	231	0.072	0.24	-0.65	0.76
HHI	262	0.531	0.14	0.27	1.00
WINNER_MARGIN	261	0.256	0.11	0.02	0.58
PARTICIPATION	262	0.544	0.07	0.36	0.73

*Note:* Each observation represents a *kecamatan* assigned to one of the PNPM Generasi experimental groups. Data are from the World Bank Indonesia's Health and Education Services Endline Survey. The presidential and legislative election variables refer to the July and April 2009 elections, respectively.

## VI. RESULTS

### 6.1 Empirical Strategy

Our analyses measure the effects of the PNPM Generasi program on various political outcomes using the following ordinary least squares (OLS) regression structure:

$$Y_{ijk} = \alpha + \beta(Treatment_{ijk}) + \gamma_i + \zeta_k * Mandiri + \varepsilon_{ijk},$$

where  $i$  represents a *kecamatan*,  $j$  represents the *kabupaten*-level stratum, and  $k$  represents the province level. The “treatment” variable indicates whether the *kecamatan* was in the control group or received one of the treatments. The “*Mandiri*” x province-level fixed effect term corrects for the presence of the PNPM-Mandiri program, where “*Mandiri*” is a dummy variable indicating areas scheduled to receive the PNPM-Mandiri program before the randomization of PNPM Generasi took place.<sup>17</sup> We disaggregate the treatment group in order

<sup>17</sup>*Kecamatan* were allowed to participate in only one community development program during the pilot period, so areas randomized into the PNPM Generasi lottery were not eligible to receive PNPM-Mandiri.

to test for differential impacts of the randomized “incentivized” treatment variant, where some sub-villages were eligible to receive an additional bonus of 20% of funds contingent on their performance in achieving the program’s specified health and education goals, compared to the “non-incentivized” treatment group. We also test for differential effects of the program in the group that had been receiving the program for two years by the time of the endline survey (“start in 2007”) versus groups that had been receiving it only for one year (“start in 2008”). While the political effects of the program might be stronger in areas receiving the program for a longer period of time, an alternative hypothesis is that the program might carry greater political salience and benefit incumbents more in areas where the program has been established just recently.

**Table 3. Effects of CCT on Presidential and National Legislative Election Results and Political Competition (by incentivized/non-incentivized treatment type)**

	Presidential Elections				National Legislative (DPR) Elections	
	SBY_VOTESHARE	SBY_MARGIN	HHI	LOG_PARTY_VISITS	PD_VOTESHARE	PD_WINNER
INCENTIVIZED TREATMENT	-0.015 (0.013)	-0.031 (0.025)	-0.004 (0.008)	0.152* (0.090)	0.013 (0.018)	0.018 (0.034)
NON-INCENTIVIZED TREATMENT	-0.012 (0.013)	-0.027 (0.025)	0.001 (0.008)	0.082 (0.087)	0.010 (0.018)	-0.011 (0.033)
SBY_VOTESHARE_2004	0.430*** (0.068)	0.885*** (0.132)	0.178*** (0.041)	-0.711 (0.477)	0.419*** (0.094)	0.832*** (0.174)
PERCENTAGE_MUSLIM	-0.002 (0.001)	-0.003 (0.002)	-0.000 (0.001)	-0.010 (0.008)	0.000 (0.002)	0.000 (0.003)
PERCENTAGE_AGRICULTURAL	-0.001 (0.001)	-0.001 (0.001)	-0.000 (0.000)	0.004 (0.004)	-0.000 (0.001)	-0.001 (0.002)
DISTANCE_TO_KABUPATEN	0.000* (0.000)	0.001* (0.001)	0.000 (0.000)	-0.001 (0.002)	-0.000 (0.000)	-0.001 (0.001)
URBAN	0.009 (0.063)	0.037 (0.122)	-0.109*** (0.038)	0.455 (0.417)	-0.013 (0.087)	0.032 (0.162)
LOG_CONSUMPTION	-0.098** (0.045)	-0.155* (0.087)	-0.084*** (0.027)	-0.282 (0.296)	0.015 (0.063)	0.101 (0.116)
EDUCATION_HOUSEHOLD_HEAD	0.028 (0.021)	0.055 (0.040)	-0.006 (0.012)	0.034 (0.138)	0.041 (0.029)	0.094* (0.054)
Constant	1.706*** (0.586)	1.944* (1.136)	1.488*** (0.352)	5.430 (3.890)	-0.031 (0.817)	-1.216 (1.512)
Observations	250	250	250	224	251	251
R-squared						
Adjusted R-squared	0.371	0.365	0.311	0.168	0.530	0.496

Note: Standard errors in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

We present the main findings in Tables 3–12. Our main reported results are OLS regressions of the five categories of dependent variables on the treatment independent variables, along with the control variables and fixed effects. Because *kecamatan* were randomly assigned to the

control group and incentivized or non-incentivized treatment groups, this implies unbiased estimation of the effect of assignment to a treatment group, or the “intent-to-treat” (ITT) effect. Note that for the analyses where treatment effects are disaggregated by the program start year, our estimates of program impacts might be biased if areas that started the program later differed from the on-time starters in having different socioeconomic characteristics or administrative capacities. We find few significant differences between the on-time and late-starting groups across all of our key control variables, however, so we cautiously assume that delays occurred more or less randomly across the sample, though we cannot rule out the possibility that unobservable differences may exist between the two groups. For this reason, we focus more on the incentivized versus non-incentivized treatment disaggregation and interpret the estimates of treatment effects disaggregated by start year.

For all outcomes with data available from both the baseline survey and the endline survey, we take advantage of the longitudinal data using panel regressions. The endline survey includes a more comprehensive set of politically-relevant variables than the baseline; the endline survey’s timing shortly after the legislative and presidential elections in 2009 provides data on the major political events, while no analogous data were collected at the baseline period. In the case of indicators that were included in the endline survey only, we rely where possible on other data sources and include the lag of the dependent variable as a control variable (for example, incumbent vote shares and voter participation in the previous election).

## 6.2 Effects on Support for Incumbents and Political Competition

Tables 3 and 4 show the program’s main effects on the electoral support for the incumbent president, members of the DPR from the president’s political party and incumbent village heads. Overall, the results provide no conclusive evidence that the program benefited then incumbent President Susilo Bambang Yudhoyono in his July 2009 re-election, though there is strong evidence that the program benefited his party in the April 2009 legislative elections. The results also indicate decreased levels of overall political competition in the presidential election. The evidence suggests that communities generally tend to attribute the benefits of PNPM to the central government rather than to village-level governments, given the absence of any results demonstrating program effects on increasing incumbent village heads’ probabilities of re-election.

Table 3 examines the effect of the randomized “incentivized” and “non-incentivized” treatment variants on presidential and national legislative election results. Each of these regression specifications include fixed effects and the core set of control variables that were specified in advance of the research, along with an additional variable to control for President Yudhoyono’s vote share in the 2004 presidential election. The share of votes for President Yudhoyono as a percentage of total votes in the presidential election is not significantly higher in treatment *kabupaten* compared to control *kecamatan*. President Yudhoyono’s winning margin over the second-best candidate—either Megawati or Kalla, depending on the area—also shows no significant difference in treatment areas relative to the control group. There is also no evidence of significant effects of the program on political competition, although the incentivized treatment increases the frequency of political party visits to villages during the relevant legislative or presidential campaign season (for example, for political rallies and to give campaign speeches), which suggests that PNPM heightens the political importance of recipient areas as perceived by political party leaders ( $p < .10$ ). The results remain very similar if the fixed effects and control variables are excluded from the equations and if the incentivized and non-incentivized treatment variables are combined into a single treatment category.

**Table 4. Effects of CCT on Presidential and National Legislative Election Results and Political Competition (by treatment start year)**

	Presidential Elections				National Legislative (DPR) Elections	
	SBY_VOTESHARE	SBY_MARGIN	HHI	LOG_PARTY_VISITS	PD_VOTESHARE	PD_WINNER
TREATMENT – start in 2007	-0.014 (0.012)	-0.024 (0.024)	-0.007 (0.007)	0.117 (0.087)	0.008 (0.017)	-0.013 (0.032)
TREATMENT – start in 2008	0.008 (0.017)	-0.000 (0.034)	0.021** (0.010)	0.109 (0.116)	0.043* (0.024)	0.090** (0.044)
SBY_VOTESHARE_2004	0.431*** (0.068)	0.883*** (0.132)	0.182*** (0.040)	-0.699 (0.480)	0.428*** (0.094)	0.855*** (0.173)
PERCENTAGE_MUSLIM	-0.002 (0.001)	-0.003 (0.002)	-0.000 (0.001)	-0.011 (0.008)	-0.000 (0.002)	0.000 (0.003)
PERCENTAGE_AGRICULTURAL	-0.001 (0.001)	-0.001 (0.001)	-0.000 (0.000)	0.004 (0.004)	-0.000 (0.001)	-0.001 (0.002)
DISTANCE_TO_KABUPATEN	0.000* (0.000)	0.001* (0.001)	0.000 (0.000)	-0.001 (0.002)	-0.000 (0.000)	-0.001 (0.001)
URBAN	0.008 (0.063)	0.036 (0.122)	-0.109*** (0.037)	0.461 (0.418)	-0.011 (0.087)	0.031 (0.160)
LOG_CONSUMPTION	-0.103** (0.045)	-0.159* (0.087)	-0.091*** (0.027)	-0.328 (0.297)	-0.001 (0.062)	0.050 (0.115)
EDUCATION_HOUSEHOLD_HEAD	0.031 (0.021)	0.060 (0.040)	-0.001 (0.012)	0.026 (0.139)	0.045 (0.029)	0.103* (0.053)
Constant	1.742*** (0.584)	1.949* (1.135)	1.560*** (0.346)	6.118 (3.871)	0.152 (0.810)	-0.616 (1.493)
Observations	250	250	250	224	251	251
R-squared						
Adjusted R-squared	0.372	0.363	0.330	0.166	0.536	0.505

Note: Standard errors in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 4 examines the same set of dependent variables, but disaggregates the treatment variable according to the program start year (2007 or 2008) instead of the incentivized or non-incentivized treatment. These specifications provide evidence that the community development program led to significant increases in vote shares for legislative candidates from the president's political party and also reduced overall competition between the presidential candidates, as measured by the HHI. The program increased vote shares for legislative candidates from PD by 4.3% in *kecamatan* starting the program in 2008 ( $p<.05$ ), and increased by 9% the probability of a PD candidate winning the most votes in the *kecamatan* ( $p<.10$ ). The treatment starting in 2008 also increased the HHI between presidential candidates by 2.1%, relative to the control group ( $p<.05$ ), indicating decreased competition. It is perhaps surprising that these effects occur only in areas where the program started in the year immediately prior to the election rather than in areas that had been receiving the program for two years before the election, suggesting that the political benefits of the program may be short-lived.

**Table 5. Effects of CCT on Village Head Election Results  
(by incentivized/non-incentivized treatment type)**

	INCUMBENT_ VOTESHARE	INCUMBENT_ _MARGIN	HHI	WINNER_ VOTESHARE	WINNER_ _MARGIN	CANDID ATES
INCENTIVIZED TREATMENT	-0.038 (0.041)	-0.076 (0.058)	0.018 (0.021)	0.016 (0.019)	0.018 (0.018)	-0.029 (0.117)
NON- INCENTIVIZED TREATMENT	-0.021 (0.041)	-0.078 (0.057)	-0.008 (0.021)	-0.006 (0.019)	-0.004 (0.018)	-0.045 (0.119)
PERCENTAGE_ MUSLIM	0.001* (0.000)	0.000 (0.001)	0.001*** (0.000)	0.001*** (0.000)	0.001** (0.000)	-0.005*** (0.001)
PERCENTAGE_ AGRICULTURAL	0.003** (0.001)	0.005** (0.002)	0.001*** (0.001)	0.002*** (0.001)	0.002*** (0.001)	-0.003 (0.003)
DISTANCE_TO_ KABUPATEN	-0.000 (0.001)	0.000 (0.001)	-0.001*** (0.000)	-0.001** (0.000)	0.000 (0.000)	0.007*** (0.002)
LOG_ CONSUMPTION	0.099 (0.089)	0.077 (0.124)	0.008 (0.031)	0.007 (0.028)	0.040 (0.030)	0.098 (0.180)
EDUCATION_HH_ _HEAD	0.078* (0.042)	0.132** (0.060)	0.011 (0.018)	0.014 (0.016)	0.019 (0.017)	-0.041 (0.102)
Constant	-1.197 (1.105)	-1.530 (1.534)	0.233 (0.376)	0.300 (0.345)	-0.532 (0.369)	2.128 (2.190)
Observations	166	159	461	461	442	463
R-squared	0.075	0.069				
Number of <i>kecamatan</i>	-	-	261	261	260	261

Note: Standard errors in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

While PNPM Generasi had certain effects on national-level political incumbents, the evidence indicates no overall effects on incumbent politicians at the village level. The regression models in Tables 5 show no significant effects of the program on incumbent village heads' vote shares or winning margins. There are also no significant impacts on political competition as measured by the winner's vote shares, victory margins, or the HHI constructed using village head candidate vote share data. Finally, we examine whether the program affects the number of candidates who decide to enter the village head electoral race as an alternative basic measure of political competition, but again we find no significant effects. In each of these regressions, we include the same set of control variables as used in the previous regressions, with the exception of the 2004 presidential vote share variable (no analogous incumbent's vote share data exists for previous village head elections). Table 5 disaggregates the treatment variable by the incentivized variant, while Table 6 disaggregates the treatment by start year. The results in Table 6 are similar to Table 5 with no coefficients achieving significance at the 5% level. To summarize, we find evidence that PNPM Generasi increased vote shares of national legislature members from the president's PD and reduced political competition in the presidential race in areas that received PNPM Generasi in 2008, but we do not find that the program significantly affected vote shares for the incumbent president himself or for the village head incumbents.

**Table 6. Effects of CCT on Village Head Election Results (by treatment start year)**

	INCUMBENT_ VOTESHARE	INCUMBENT_ MARGIN	HHI	WINNER_ VOTESHARE	WINNER_ MARGIN	CANDIDATES
TREATMENT - start in 2007	-0.041 (0.038)	-0.092* (0.052)	0.007 (0.019)	0.008 (0.017)	0.012 (0.017)	-0.054 (0.107)
TREATMENT - start in 2008	-0.045 (0.048)	-0.133* (0.067)	-0.003 (0.025)	-0.004 (0.022)	-0.004 (0.022)	0.005 (0.140)
PERCENTAGE_ MUSLIM	0.001* (0.000)	0.001 (0.001)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	-0.005*** (0.001)
PERCENTAGE_ AGRICULTURAL	0.003** (0.001)	0.005** (0.002)	0.001** (0.001)	0.002*** (0.001)	0.002*** (0.001)	-0.003 (0.003)
DISTANCE_TO_ KABUPATEN	-0.000 (0.001)	0.000 (0.001)	-0.001*** (0.000)	-0.001** (0.000)	0.000 (0.000)	0.007*** (0.002)
LOG_ CONSUMPTION	0.100 (0.089)	0.071 (0.123)	0.008 (0.031)	0.007 (0.028)	0.041 (0.030)	0.095 (0.180)
EDUCATION_ HH_HEAD	0.078* (0.042)	0.137** (0.060)	0.011 (0.018)	0.014 (0.016)	0.020 (0.017)	-0.043 (0.102)
Constant	-1.197 (1.102)	-1.453 (1.520)	0.236 (0.376)	0.301 (0.345)	-0.541 (0.369)	2.168 (2.189)
Observations	166	159	461	461	442	463
R-squared	0.079	0.085				
Number of <i>kecamatan</i>	-	-	261	261	260	261

Note: Standard errors in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

### 6.3 Effects on Voter Participation

Tables 7 and 8 show the effects of PNPM Generasi on voter participation in national and local elections respectively. We find no significant effects of the program on voter turnout in the April and July 2009 elections (for the legislative and presidential elections, respectively), nor is there evidence that the program affects voter turnout in village head elections.

Table 7 examines the overall voter participation and participation disaggregated by gender in the presidential and legislative elections; we find no significant changes in PNPM Generasi treatment *kecamatan* relative to control *kecamatan*. The set of controls included is the same as in the equations in tables 3, 4, 5, and 6, except that the incumbent's vote share in the 2004 presidential election is replaced with voter turnout. We cross-check the findings using two different sources of available data: (i) voter turnout data, collected during interviews with village heads; and (ii) responses from individuals in the household survey, who were asked whether they voted in the most recent legislative, presidential, and village head elections. In both cases, the findings are similar. The results shown here are for the incentivized and non-incentivized treatments; the findings are comparable if disaggregated by program start year (not shown).

**Table 7. Effects of CCT on Voter Participation in Presidential and National Legislative Elections (by incentivized/non-incentivized treatment type)**

	Presidential Elections						National Legislative (DPR) Elections		
	Village head survey data			Household survey data			Total	Men	Women
	Total	Men	Women	Total	Men	Women			
INCENTIVIZED TREATMENT	0.001 (0.010)	0.003 (0.006)	0.000 (0.006)	0.003 (0.005)	-0.009 (0.017)	0.012 (0.017)	0.002 (0.009)	0.003 (0.005)	0.001 (0.006)
NON-INCENTIVIZED TREATMENT	-0.006 (0.010)	-0.003 (0.006)	-0.003 (0.006)	-0.004 (0.005)	-0.003 (0.016)	-0.001 (0.017)	-0.002 (0.009)	-0.002 (0.005)	0.002 (0.006)
VOTER_PARTICIPATION_2004	0.224*** (0.067)	0.113*** (0.039)	0.068* (0.040)	0.075** (0.033)	-0.102 (0.112)	0.177 (0.114)	0.198*** (0.058)	0.087** (0.036)	0.051 (0.038)
PERCENTAGE_MUSLIM	-0.001 (0.001)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.001 (0.001)	-0.001 (0.001)	-0.000 (0.001)	0.000 (0.000)	0.000 (0.000)
PERCENTAGE_AGRICULTURAL	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.001 (0.001)	-0.001 (0.001)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
DISTANCE_TO_KABUPATEN	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000*** (0.000)
URBAN	0.120** (0.048)	0.080*** (0.029)	0.042 (0.029)	0.012 (0.023)	0.036 (0.081)	-0.024 (0.081)	0.089** (0.042)	0.064** (0.026)	0.023 (0.027)
LOG_CONSUMPTION	-0.002 (0.034)	-0.025 (0.020)	0.026 (0.020)	-0.016 (0.017)	-0.016 (0.058)	0.001 (0.058)	-0.025 (0.030)	-0.020 (0.018)	0.004 (0.019)
EDUCATION_HOUSEHOLD_HEAD	0.000 (0.016)	-0.005 (0.009)	-0.001 (0.009)	0.000 (0.008)	0.001 (0.026)	-0.001 (0.027)	-0.003 (0.014)	-0.006 (0.008)	0.002 (0.009)
COMMUNITY_GROUPS	-0.022 (0.016)	-0.013 (0.009)	-0.009 (0.009)	0.011 (0.008)	0.012 (0.026)	-0.000 (0.027)	-0.020 (0.014)	-0.019** (0.008)	-0.013 (0.009)
COMMUNITY_MEETINGS	0.000 (0.002)	0.001 (0.001)	0.000 (0.001)	0.000 (0.001)	0.004 (0.003)	-0.004 (0.003)	-0.001 (0.002)	0.002 (0.001)	0.000 (0.001)
Constant	0.699 (0.447)	0.633** (0.261)	0.023 (0.264)	1.114*** (0.219)	0.346 (0.750)	0.769 (0.759)	0.960** (0.389)	0.560** (0.240)	0.294 (0.252)
Observations	251	248	248	251	251	251	251	250	250
R-squared									
Adjusted R-squared	0.375	0.352	0.361	0.062	0.583	0.585	0.470	0.405	0.401

*Note:* Standard errors in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Similar to the null effects of PNPM Generasi on voter participation in national elections, the program does not seem to affect village head election turnout in either the incentivized or non-incentivized samples (see Table 8). The results are similar when the treatment variable is disaggregated by program start year.

**Table 8. Effects of CCT on Voter Participation in Local Elections**

	<u>Kabupaten Head Elections</u>						<u>Village Head Elections</u>			
	Village head survey			Household survey			Village head survey	Household survey		
	Total	Men	Women	Total	Men	Women	Total	Total	Men	Women
INCENTIVIZED TREATMENT	0.002 (0.009)	0.006 (0.006)	-0.001 (0.006)	-0.031 (0.021)	-0.038 (0.031)	0.007 (0.034)	0.002 (0.009)	0.009 (0.016)	-0.022 (0.033)	0.032 (0.036)
NON-INCENTIVIZED TREATMENT	-0.005 (0.009)	-0.006 (0.006)	-0.004 (0.006)	-0.011 (0.020)	0.028 (0.030)	-0.039 (0.033)	-0.014 (0.009)	-0.008 (0.016)	-0.018 (0.033)	0.010 (0.035)
PERCENTAGE_MUSLIM	-0.001 (0.001)	-0.000 (0.000)	-0.001 (0.000)	0.001 (0.002)	0.001 (0.003)	-0.000 (0.003)	-0.001* (0.000)	0.000 (0.001)	0.004** (0.002)	-0.004* (0.002)
PERCENTAGE_AGRICULTURAL	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.002* (0.001)	0.001 (0.002)	-0.003 (0.002)	0.000 (0.000)	0.000 (0.001)	0.000 (0.001)	-0.000 (0.001)
DISTANCE_TO_KABUPATEN	-0.000 (0.000)	0.000 (0.000)	-0.000* (0.000)	-0.000 (0.000)	-0.001 (0.001)	0.000 (0.001)	0.000* (0.000)	-0.000 (0.000)	0.000 (0.001)	-0.000 (0.001)
URBAN	0.049 (0.045)	0.002 (0.030)	-0.003 (0.028)	-0.239** (0.101)	-0.023 (0.150)	-0.216 (0.164)		0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
LOG_CONSUMPTION	0.022 (0.032)	-0.001 (0.022)	0.024 (0.020)	0.075 (0.071)	-0.110 (0.105)	0.184 (0.115)	0.005 (0.018)	0.066* (0.037)	-0.050 (0.078)	0.116 (0.084)
EDUCATION_HOUSEHOLD_HEAD	0.018 (0.015)	0.005 (0.010)	0.010 (0.009)	-0.018 (0.033)	-0.026 (0.049)	0.008 (0.054)	0.019** (0.010)	0.010 (0.017)	-0.024 (0.036)	0.034 (0.039)
COMMUNITY_GROUPS	-0.009 (0.015)	0.013 (0.010)	-0.009 (0.009)	0.023 (0.034)	0.017 (0.050)	0.006 (0.055)	-0.005 (0.008)	0.020 (0.019)	0.060 (0.040)	-0.040 (0.042)
COMMUNITY_MEETINGS	0.000 (0.002)	-0.000 (0.001)	0.002 (0.001)	-0.002 (0.004)	0.004 (0.006)	-0.006 (0.007)	-0.001 (0.001)	-0.000 (0.002)	-0.003 (0.005)	0.003 (0.005)
Constant	0.388 (0.415)	0.359 (0.280)	0.057 (0.257)	0.146 (0.934)	1.495 (1.389)	-1.349 (1.520)	0.463** (0.222)	0.057 (0.477)	0.593 (1.009)	-0.536 (1.081)
Observations	263	253	253	235	235	235	461	216	216	216
R-squared	0.563	0.511	0.533	0.347	0.438	0.408	-	0.167	0.412	0.379
Number of kecamatan	-	-	-	-	-	-	261	-	-	-

Note: Standard errors in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## 6.4 Effects on Political Access/Activity and Local Government Capacity

This section tests whether the PNPM Generasi program improves communities' access to local politicians and the political activeness of community members. We examine the frequency of visits to communities by political party representatives during the campaign season, meetings between village leaders and higher-level government officials, and protests from community members to village-level and *kabupaten*-level governments.

Several robust findings in Table 9 indicate that PNPM Generasi generally increases local communities' access to higher-level political officials. First, we observe some evidence that the



program increases the level of contact between village-level officials and higher-ranked officials at the level of the DPR. The positive coefficients of .045 and .062 on the “Invited” and “Was\_Visited” variables, respectively ( $p<.10$  and  $p<.05$ ) suggest that the non-incentivized PNPM Generasi *kecamatan* government officials are both more likely to invite and to be visited by DPR officials. Village heads were also asked to report the frequency of visits of other tiers of government officials, including the members of *kabupaten*- and provincial-level Houses of Representatives (DPRD) and *kabupaten* heads, but there were no significant changes in these variables across treatment and control groups. Together with the previous findings, these results support the fact that PNPM Generasi seems to have been politically relevant particularly for candidates in the national legislative assembly.

**Table 9. Effects of CCT on Political Access and Political Activity**

	<u>DPR member</u>				<u>Kabupaten head</u>				Protests
	Invited	Was_Invited	Visited	Was_Visited	Invited	Was_Invited	Visited	Was_Visited	
INCENTIVIZED TREATMENT	-0.010 (0.024)	-0.016 (0.012)	0.001 (0.018)	0.011 (0.029)	0.016 (0.046)	0.006 (0.037)	0.003 (0.054)	-0.009 (0.050)	0.110 (0.101)
NON-INCENTIVIZED TREATMENT	0.045* (0.023)	-0.004 (0.012)	0.011 (0.017)	0.062** (0.028)	0.051 (0.045)	-0.005 (0.037)	0.005 (0.053)	0.055 (0.049)	0.268*** -
PERCENTAGE_MUSLIM	0.000 (0.001)	0.001 (0.001)	0.001 (0.001)	0.000 (0.002)	0.001 (0.003)	0.000 (0.002)	-0.001 (0.003)	0.000 (0.003)	0.002 (0.007)
PERCENTAGE_AGRICULTURAL	0.001 (0.001)	0.001** (0.000)	0.001 (0.001)	-0.002 (0.001)	-0.002 (0.002)	-0.002 (0.001)	-0.000 (0.002)	-0.002 (0.002)	-0.008 (0.005)
DISTANCE_TO_KABUPATEN	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.001)	-0.001 (0.001)	-0.000 (0.001)	0.000 (0.001)	-0.001 (0.001)	-0.003 (0.002)
URBAN	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.048 (0.483)
LOG_CONSUMPTION	-0.060 (0.056)	0.010 (0.028)	-0.038 (0.041)	0.048 (0.066)	0.132 (0.106)	0.079 (0.087)	0.247** (0.125)	-0.087 (0.116)	0.795** (0.342)
EDUCATION_HOUSEHOLD_HEAD	0.036 (0.026)	0.014 (0.013)	0.004 (0.019)	0.028 (0.031)	-0.091* (0.049)	-0.010 (0.040)	-0.123** (0.058)	-0.043 (0.054)	-0.227 (0.160)
COMMUNITY_GROUPS	0.029 (0.027)	-0.004 (0.014)	0.001 (0.020)	0.004 (0.032)	0.050 (0.051)	0.022 (0.042)	0.097 (0.060)	0.174*** (0.056)	0.121 (0.156)
COMMUNITY_MEETINGS	-0.002 (0.003)	0.001 (0.002)	0.002 (0.003)	0.002 (0.004)	0.006 (0.007)	0.003 (0.005)	-0.015** (0.008)	-0.010 (0.007)	-0.004 (0.020)
Constant	0.591 (0.717)	-0.299 (0.365)	0.296 (0.528)	-0.541 (0.854)	-1.215 (1.366)	-0.727 (1.115)	-2.169 (1.610)	1.532 (1.498)	-8.716* (4.451)
Observations	237	237	237	237	237	237	237	237	264
R-squared	0.146	0.145	0.180	0.164	0.201	0.180	0.263	0.282	0.182

Note: Standard errors in parentheses.

\*\*\*  $p<0.01$ , \*\*  $p<0.05$ , \*  $p<0.1$

We additionally find that the incidence of protests from community members to the *kabupaten*-level government increases significantly by 26.8% in the non-incentivized treatment group relative to the control group. The authors assume this indicates that the treatment heightens awareness of the channels through which to express political demands among the

community members, although an increase in protests could potentially indicate increased public dissatisfaction with the political incumbents in PNPM Generasi areas. We find the latter explanation less compelling, however, given the previous evidence on the program's role in increasing political activities in communities as well as evidence presented in the following section that the program increases satisfaction with *kabupaten*-level governments. Indeed, the observed increase in political activity and higher demands of voters in treatment areas fits well with the earlier finding that PNPM Generasi increases the political importance of these areas.

**Table 10. Effects of CCT on Local Government Capacity**

	Village Gvt. Participation	Existence of BPD	Number of BPD Meetings
INCENTIVIZED TREATMENT	0.012 (0.010)	0.010** (0.005)	0.084 (0.231)
NON-INCENTIVIZED TREATMENT	0.008 (0.010)	0.004 (0.005)	0.013 (0.230)
PERCENTAGE_MUSLIM	0.001** (0.001)	-0.000 (0.000)	0.003 (0.012)
PERCENTAGE_AGRICULTURAL	0.000 (0.000)	0.000 (0.000)	0.001 (0.008)
DISTANCE_TO_KABUPATEN	-0.000 (0.000)	0.000 (0.000)	-0.002 (0.004)
LOG_CONSUMPTION	0.020 (0.022)	-0.004 (0.010)	1.556*** (0.480)
EDUCATION_HOUSEHOLD_HEAD	0.014 (0.012)	0.001 (0.005)	-0.433* (0.256)
COMMUNITY_GROUPS	0.055*** (0.010)	-0.001 (0.004)	-0.028 (0.212)
COMMUNITY_MEETINGS	-0.002 (0.001)	-0.001 (0.001)	0.032 (0.028)
Constant	-0.380 (0.273)	1.071*** (0.121)	-15.434** (6.063)
Observations	463	463	463
Number of <i>kecamatan</i>	261	261	261

Note: Standard errors in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Finally, we find that PNPM Generasi does not seem to affect the functioning of BPDs (see Table 10). Aside from a small and marginally significant increased probability that the BPD exists in incentivized treatment areas ( $p<.10$ ), there is no discernible increase in the percentage of areas reporting that a functional BPD exists nor any increased frequency in BPD meetings reported to have occurred in the three-month period prior to the endline survey. Further, there is no significant increase in participation in village government as reported by household respondents. In summary, we find in this section that PNPM Generasi increases both the political activity among the communities and the frequency of contact between communities and higher-level officials, as measured by meetings or invitations between villages and national

assembly members as well as by the number political protests to *kabupaten*-level governments. At the same time, the program has no discernible impact on the local government capacity.

## 6.5 Effects on Satisfaction with Public Services

To measure changes in satisfaction with government as a result of the PNPM Generasi program, surveyed households were asked to report whether they have noticed any change in the quality of government administrative services during the past two years. Table 11 shows that while households in PNPM Generasi areas do not report any improvement or changes in the satisfaction with village-level government services, those in the incentivized treatment group report improvements in *kabupaten*-level government administrative services relative to the control group ( $p < .05$ ) with a magnitude over 10%. Similarly, the coefficient on satisfaction with *kabupaten*-level administrative services in the incentivized treatment group is significant ( $p < .05$ ), with a magnitude of 8%. This evidence suggests that the *kabupaten*-level governments may receive some credit for PNPM Generasi program, while village governments are not similarly rewarded.

**Table 11. Effects of CCT on Satisfaction with Local Government Administrative Services (by incentivized treatment type)**

	<i>Kabupaten</i> -level government				Village-level government			
	Perception of Improvement		Satisfaction		Perception of Improvement		Satisfaction	
INCENTIVIZED TREATMENT	0.103** (0.045)	0.100** (0.043)	0.080** (0.036)	0.085** (0.035)	0.036 (0.033)	0.015 (0.028)	0.009 (0.024)	0.003 (0.021)
NON- INCENTIVIZED TREATMENT	0.028 (0.046)	0.020 (0.042)	0.003 (0.036)	0.007 (0.035)	0.002 (0.034)	-0.009 (0.028)	-0.037 (0.024)	-0.036* (0.021)
PERCENTAGE_ MUSLIM	-0.000 (0.001)	0.001 (0.003)	-0.001 (0.000)	-0.000 (0.003)	-0.001 (0.000)	-0.004** (0.002)	-0.001*** (0.000)	-0.004** (0.002)
PERCENTAGE_ AGRICULTURAL	0.002 (0.002)	0.002 (0.002)	0.002 (0.002)	0.001 (0.002)	-0.002 (0.001)	-0.000 (0.001)	-0.002** (0.001)	-0.002 (0.001)
DISTANCE_TO_ KABUPATEN	0.002** (0.001)	0.001 (0.001)	0.001** (0.001)	0.001 (0.001)	0.001** (0.001)	0.000 (0.001)	0.001*** (0.000)	0.000 (0.000)
URBAN	0.014 (0.188)	0.208 (0.206)	-0.090 (0.149)	0.005 (0.168)	-0.132 (0.139)	0.165 (0.135)	-0.176* (0.099)	0.034 (0.102)
LOG_ CONSUMPTION	-0.180 (0.121)	-0.095 (0.146)	0.058 (0.096)	0.004 (0.119)	0.021 (0.089)	0.019 (0.095)	0.110* (0.063)	-0.012 (0.073)
EDUCATION_ HOUSEHOLD_ HEAD	0.101* (0.057)	0.026 (0.068)	0.015 (0.045)	-0.016 (0.055)	0.030 (0.042)	-0.040 (0.044)	-0.016 (0.030)	-0.033 (0.034)
Constant	3.400** (1.518)	2.550 (1.901)	0.622 (1.209)	1.438 (1.549)	1.415 (1.126)	2.047 (1.244)	0.384 (0.798)	2.288** (0.945)
Observations	264	264	264	264	264	264	264	264
R-squared	0.072	0.278	0.087	0.256	0.056	0.428	0.117	0.386

Note: Standard errors in parentheses.

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

## 6.6 Effects on Entry into the Village Head Office

Finally, we test the effects of the PNPM Generasi program on increasing opportunities for individuals from different groups to enter local politics as candidates and/or winners in village head elections (see Table 12). We focus on the entry of candidates who have traditionally been very poorly represented in village politics, including women and members of smaller or poorer sub-villages. We also explore whether the program affects the age or education level of village heads who are elected to office.

**Table 12. Effects of CCT on Entry of Under-Represented Groups to Village Head Position**

	Women		Age		Education Level		Neighborhood Characteristics	
	Number of Candidates	Percentage Votes	Under 40	Under 50	High School	College	Socio-Economic Rank	Population
INCENTIVIZED TREATMENT	0.016 (0.017)	0.004 (0.009)	-0.150*** (0.049)	-0.049 (0.047)	-0.094** (0.045)	0.002 (0.043)	-0.005 (0.021)	0.028 (0.033)
NON-INCENTIVIZED TREATMENT	-0.004 (0.017)	-0.001 (0.009)	-0.130*** (0.048)	-0.042 (0.046)	-0.041 (0.044)	-0.010 (0.042)	-0.011 (0.021)	0.041 (0.033)
PERCENT_MUSLIM	0.000 (0.001)	0.000 (0.000)	-0.002 (0.003)	-0.000 (0.003)	-0.001 (0.003)	0.005* (0.002)	-0.000 (0.001)	0.004** (0.002)
PERCENTAGE_AGRICULTURAL	-0.000 (0.001)	-0.000 (0.000)	-0.003 (0.002)	-0.000 (0.002)	-0.000 (0.002)	0.000 (0.001)	-0.001 (0.001)	-0.001 (0.001)
DISTANCE_TO_KABUPATEN	0.000 (0.000)	-0.000 (0.000)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.000 (0.001)	0.001*** (0.000)	0.000 (0.001)
LOG_CONSUMPTION	-0.022 (0.035)	0.003 (0.018)	-0.183 (0.114)	-0.098 (0.108)	-0.184* (0.103)	-0.026 (0.098)	-0.020 (0.042)	0.081 (0.066)
EDUCATION_HOUSEHOLD_HEAD	0.044** (0.019)	0.021** (0.010)	-0.154*** (0.053)	-0.088* (0.050)	0.025 (0.048)	-0.002 (0.046)	0.012 (0.023)	-0.070* (0.036)
Constant	0.175 (0.444)	-0.081 (0.234)	3.340** (1.482)	2.197 (1.401)	3.183** (1.340)	-0.020 (1.273)	0.968* (0.540)	-0.967 (0.842)
Observations	463	461	237	237	237	237	463	461
R-squared	-	-	0.282	0.203	0.294	0.188	-	-
Number of kecamatan	261	261	-	-	-	-	261	261

Note: Standard errors in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

The findings are once again somewhat mixed: PNPM Generasi does not seem to affect the number of female candidates running for the village head office nor the vote shares garnered by female candidates in either the incentivized or non-incentivized treatments. Counter to our initial hypothesis that the program might facilitate the election of younger village heads, it seems that the program in fact encourages the election of older leaders, given the highly significant decreases of 15% and 13% in the number of village heads under the age of 40 in the incentivized and non-incentivized treatments respectively.<sup>18</sup> One potential explanation of this fact might be that the village head positions become more sought-after once villages

<sup>18</sup>The coefficients are in the same direction if this definition is adjusted to village heads under the age of 50 though they are no longer significant at the 5% level.

receive PNPM funds (for example, since presumably the village head has some influence over these funds), and thus older (and presumably wealthier) candidates are more motivated to enter or win these races. Finally, no significant effects of the program are detected on the election of candidates from poorer or smaller sub-villages as village heads, and PNPM Generasi is not associated with any consistent overall change in the education levels of elected village heads. Overall, PNPM Generasi does not strongly impact the characteristics of village heads who were elected after the start of the program, except for decreasing the number of younger village heads.

## VII. DISCUSSION OF RESULTS

Overall, we find that PNPM Generasi's strongest political effects include rewarding DPR candidates affiliated with the incumbent president's PD, decreasing competition in the presidential election, and increasing the satisfaction with *kabupaten*-level government services. While it may not seem surprising that a social transfer program is politically popular, the results are noteworthy in several respects. First, it is interesting to note that the program did not significantly increase the support for the incumbent president himself; instead, legislative candidates from the PD benefited from the program by receiving higher vote shares in the PNPM Generasi areas. This result warrants further research, including a qualitative exploration of whom the respondents credit for the program. It is possible that PNPM Generasi beneficiaries tend to attribute the program to their legislative representatives rather than to the president; voters might make this assumption, for example, if they are aware that the program benefitted their own region and was not implemented everywhere across the nation. An alternative explanation, however, might be simply that voter preferences for presidential candidates tend to be stronger than their preferences for legislative candidates, and so the latter may be easier to influence and more responsive to the receipt of PNPM Generasi's program benefits.

The overall results are particularly surprising because unlike traditional clientelistic programs, PNPM Generasi did not allow for benefits to be easily politically manipulated, and mechanisms against such risks were explicitly built into the program design; funds were to be distributed according to an ongoing regular schedule, contingent on meeting the health and education benchmarks. Moreover, program benefits could not easily be withdrawn in case the recipients did not vote for incumbent politicians. The re-election of PD legislators or President Yudhoyono was unlikely to directly affect the likelihood that communities already receiving the PNPM program would continue receiving it. Indeed, all the communities participating in PNPM Generasi before the election continued to receive the program regardless of their behavior during the 2009 elections. However, program participants may not have been fully aware that PNPM was not associated with a particular political party, and since the program was new and had yet to withstand a change in political incumbents, it may have been rational for voters to expect the likelihood of the program continuing to be higher if the PD remained in power.

These findings can plausibly be interpreted as evidence of retrospective voting, where politicians are rewarded for implementing good policies, rather than as evidence of vote-buying. Although the program was not officially attributed to a political party, and we have not found any evidence that politicians explicitly tried to manipulate voters by claiming that it was, households may still have assumed the opposite, or they may have used their votes to

express reciprocity toward incumbents. One public statement by a member of the government of West Papua Province, Abraham Atururi, during the distribution of funds in the province, reflects what may have been a common sentiment among the public that voting for the PD would make receipt of PNPM more likely in the future: “This fund will continue to be offered to us [West Papuans] if the president is reelected. That's why I pray he will be our president again.” (The Jakarta Post, 2009b)

In terms of the policy implications, the finding that the CCT model analyzed here can potentially offer political rewards to incumbents generally seems to bode well for the future political sustainability of such programs. Regardless of the anti-poverty benefits associated with such a program, it could be difficult to gain long-term political support for a program that is not politically popular. While CCTs tend to limit politicians' ability to target the program toward particular groups (for example, core supporters, and swing voters) as compared with traditional clientelistic programs, they may offer the potential benefit of greater legitimacy in the selection process where technical poverty criteria are used to determine beneficiaries. Our finding that the political benefits of the program may be most pronounced during its first year may raise the possibility that it might be wise, at least from a purely political standpoint, for governments to repackage such programs every few years, for example, under new names, or with slightly different variations in program rules to keep in check the risk of program discontinuation due to changes in political administration. The experience of Mexico's Progreso program, initiated under Ernesto Zedillo's PRI administration and revamped under the new name of Oportunidades soon after Vicente Fox of the PAN party took power, provides one such example where repackaging of the old program when the new administration took power was a useful political strategy that safeguarded its continuation. At the same time, it is important for such programs to ensure that the targeting process used to determine beneficiaries is free from political influences.

As expected, given that the central government was the architect of the PNPM Generasi program, the electoral benefits of the program are attributed mainly to politicians involved in national-level politics, including legislative assembly candidates from the president's party. We also detect positive effects on perceptions of *kabupaten*-level government administrative service provision, which indicates that credit for the program may be somewhat disbursed between different levels of government. It could be argued that *kabupaten*-level governments deserve a share of the political rewards associated with the program, given that its successful functioning depends on the local officials' compliance with the program rules delineated by the central government. The same argument could be applied to village leaders; we do not detect, however, any effects of the program on satisfaction with village-level government.

Finally, from a policy perspective, the null results of the program on voter participation rates are perhaps somewhat surprising. While they do not negate the possibility that PNPM Generasi may have increased the levels of community participation and empowerment, they also suggest that any such effects do not extend to the sphere of formal politics. Of course, one potential explanation may be that the time frame of the study (approximately two years) is insufficient to expect that meaningful changes in political participation would take effect. Additionally, Indonesia's already high historical baseline rates of voter participation (over 50% in the 2004 presidential election, for example) may make it particularly difficult to further increase these rates.

## VIII. CONCLUSION

There is surprisingly little persuasive empirical evidence on how voters reward incumbent governments when desirable policies are implemented. The present research is one of only a small handful of studies that estimate the magnitude of the impact of a social transfer program on voting behavior with a credible exogenous source of variation in the independent variable. It is also the first study the authors are aware of that estimates the political effects of a CCT program whose benefits are distributed at the community level rather than to individual households. We are unable to distinguish whether the results are observed due to the specific community-based aspect of the program or due to other features common to all CCT programs; this remains a question for future research.

Our research opens up several avenues for future academic and policy studies. First, there is the question of the extent to which our findings can be generalised. Our research on PNPM Generasi is limited to rural areas, where most of Indonesia's population lives, but we cannot assume that the same effects would be found in urban areas, where voters tend to be better informed and may generally exhibit different types of political behavior. The extent to which our findings are applicable to other countries is also uncertain, though we have no particular reason to expect that our findings should not be applicable, at least to some degree, to other developing democracies; although Indonesia is overwhelmingly Muslim, research indicates that its voters pay little heed to religious affiliations and inducements, and instead adhere primarily to the same party and leadership cues as voters in other emerging democracies (Liddle and Mujani, 2007). Our findings on electoral rewards to incumbents are similar to those of De La O (2013), though in contrast to her results, we do not find positive effects of the program on voter participation.

Another area for further research would be to explore the political effects of the CCT programs using a longer time horizon than the two-year period of this study. In particular, it would be useful to test whether any effect of CCTs on voter participation could be detected over a longer term.

Finally, future research could explore whether CCTs political effects differ depending on a variety of household-level or region-level characteristics, such as poverty levels, previous political affiliations, and ethnic or religious factors. Insight into this would be useful in identifying potential causal mechanisms behind the results observed in this study. It would also be interesting to test whether the political impact of CCTs depends on the programs' achievement of the stated goals of improvement in health and education. If possible, future research could also link data on the distribution of program benefits with voting data at the individual or household level. Such comparison would allow researchers to trace more directly the source of any political effects of the program, including whether any changes in the support for the incumbent or voter participation can be associated specifically with program recipients or non-recipients.

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## The SMERU Research Institute

Telephone : +62 21 3193 6336

Fax : +62 21 3193 0850

E-mail : [smeru@smeru.or.id](mailto:smeru@smeru.or.id)

Website : [www.smeru.or.id](http://www.smeru.or.id)